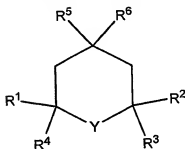


CLAIMS

1. Process for the preparation of glyceraldehyde acetonide by oxidation of 2,2-dimethyl-1,3-dioxolane-4-methanol by an oxidizing agent, characterized in that
 5 2,2-dimethyl-1,3-dioxolane-4-methanol is oxidized by an organic N-chloro compound in the presence of an inert base and TEMPO or a TEMPO-derivative of formula 1



(1)

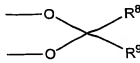
- 10 wherein R^1 , R^2 , R^3 and R^4 each independently stand for an alkyl group with 1 to 6 C-atoms and wherein R^5 and R^6 either both stand for H or an alkoxy group with 1 to 6 C-atoms or one stands for H and the other stands for an alkoxy group with 1 to 6 C-atoms, an alkylcarbonyloxy group with 1 to 6 C-atoms, an
 15 arylcarbonyloxy group with the carbonyloxy group having 1 to 6 C-atoms or an alkylcarbonylamino group with 1 to 6 C-atoms; or wherein R^5 and R^6 together stand for ketal groups of formula a-c



a



b



c

- wherein R^7 stands for an alkyl group with 1 to 6 C-atoms and R^8 and R^9 each independently stand for H or an alkyl group with 1 to 6 C-atoms and wherein Y stands for a group of general formula d-f



d



e



f

20

wherein X⁻ stands for an anion.

2. Process according to claim 1, characterized in that enantiomerically enriched
glyceraldehyde acetonide is prepared by oxidation of the corresponding
5 enantiomerically enriched 2,2-dimethyl-1,3-dioxolane-4-methanol.
3. Process according to claim 1 or claim 2, characterized in that the organic N-
chloro compound is trichloroisocyanuric acid or dichlorodimethylhydantoin.
4. Process according to any one of claims 1-3, characterized in that 2,2-dimethyl-
1,3-dioxolane-4-methanol is oxidized in the presence of TEMPO.
- 10 5. Process according to any one of claims 1-4, characterized in that the inert
base has a conjugated acid with a $pK_a > 2$.
6. Process according to any one of claims 1-5, characterized in that the amount
of inert base is at least 0.8 molar equivalent based on the theoretically
maximal molar amount of HCl that can be formed in the reaction.
- 15 7. Process according to any one of claims 1-6, characterized in that the inert
base is sodium acetate or sodium bicarbonate.
8. Process according to any one of claims 1-7, characterized in that the process
is performed at a temperature between 15 and 80°C.
9. Process according to any one of claims 1-8, characterized in that the TEMPO
20 or a TEMPO-derivative of formula 1, wherein R¹-R⁶ are as defined above, is
added to a mixture of 2,2-dimethyl-1,3-dioxolane-4-methanol, the organic N-
chloro compound and the inert base in a solvent.
10. Process according to any one of claims 1-9, characterized in that the amount
of organic N-chloro compound is such that there is at least 0.5 molar
25 equivalent active chlorine based on the amount of 2,2-dimethyl-1,3-dioxolane-
4-methanol.
11. Process according to any one of claims 1-10, characterized in that an amount
of TEMPO or a TEMPO-derivative of formula 1, wherein R¹-R⁶ are as defined
above, of between 0.1 and 1 mole% based on the amount of 2,2-dimethyl-1,3-
30 dioxolane-4-methanol is used.